

REMARKS

This is a full and timely response to the non-final Office Action of May 14, 2007. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this First Response, claims 1-33 are pending in this application. Claims 10, 15, 16, 19, and 22 are directly amended herein, and claims 24-33 have been newly added via the amendments set forth herein, and it is believed that the foregoing amendments add no new matter to the present application.

Response to §103 Rejections

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* (U.S. Patent No. 6,697,768) in view of *Iga* (U.S. Patent No. 5,065,241).

Claim 1 reads as follows:

1. An anomaly detection system, comprising:
an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and
anomaly detection logic configured to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, ***the anomaly detection logic configured to perform a comparison between the difference and a threshold and to detect an anomaly along a telecommunication line based on the comparison.***
(Emphasis added).

Even if the alleged combination of *Jones* and *Iga* is assumed to be proper for the sake of argument, Applicants respectfully assert that the alleged combination fails to suggest at least the features of pending claim 1 highlighted hereinabove. Thus, the 35 U.S.C. §103 rejection of claim 1 is improper.

In this regard, it is candidly admitted in the Office Action that *Jones* fails to suggest "using a difference in two sets of filter coefficients to detect anomalies." However, it is alleged in the Office Action that:

"Iga teaches a configuration to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, the anomaly detection logic configured to perform a comparison between the difference and a threshold and to detect an anomaly along a telecommunication line based on the comparison [Figs. 1-6; col. 5, line 10 to col. 7, line 65]."

Applicants respectfully disagree with the Office Action assertion that *Iga* detects "an anomaly along a telecommunication line" based on the alleged "comparison." In particular, *Iga* teaches that old tap coefficients are compared to new tap coefficients. See column 6, lines 40-42.

However, such comparison is apparently not for the purpose of detecting "an anomaly along a telecommunication line." Instead, the comparison appears to be performed in order to determine whether equilibrium has been reached and, therefore, whether ghosts in the received video signal are almost canceled. See column 6, lines 50-52, and column 5, lines 65-66. Thus, neither *Jones* nor *Iga*, when taken alone or in combination, suggests "anomaly detection logic configured to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, the anomaly detection logic configured to perform a comparison between the difference and a threshold and **to detect an anomaly along a telecommunication line based on the comparison**," as described by claim 1. (Emphasis added).

For at least the above reasons, Applicants respectfully assert that the cited art fails to suggest each feature of claim 1.

Improper Combination

In addition to the reasons set forth above, Applicants respectfully submit that the alleged combination of *Jones* and *Iga* is improper under 35 U.S.C. §103 and that the Office Action, therefore, fails to establish a *prima facie* case of obviousness. In this regard, "(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

In rejecting claim 1, it is alleged in the Office Action that:

"At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of *Iga* with *Jones* et al in order to provide an alternate approach to detect anomalies using the two sets of echo canceller filter coefficients."

Jones indeed describes a system that detects telecommunication line anomalies. However, as described above, *Iga* does not appear to suggest an "alternate approach to detect anomalies" of a telecommunication line but rather an approach to detect whether ghosts in a received video signal have been canceled. Such "approaches" appear to be for entirely different purposes and alleging that one is an alternative to the other is not a fair characterization of the teachings of *Jones* and *Iga*. Moreover, Applicants submit that the proffered reason for combining the select teachings of *Jones* and *Iga* is not sufficiently supported by the cited art, and the Office Action, therefore, fails to establish a *prima facie* case of obviousness.

For at least the above reasons, Applicants respectfully submit that the alleged combination of *Jones* and *Iga* is improper and fails to suggest each feature of pending claim 1. Therefore, the 35 U.S.C. §103 rejection of claim 1 should be withdrawn.

Claims 2-5 and 24-27

Claims 2 and 5 presently stand rejected in the Office Action under 35 U.S.C. §10 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand* (U.S. Patent no. 4,764,955). Further, claim 3 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga*. In addition, claim 4 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galada*. Since *Galada* is not listed on a Form PTO-892, Applicants believe that the reference to *Galada* in the Office Action is in error and that the Examiner intended to reference *Galand* instead of *Galada*. Clarification of this issue in the next Office Action is requested. Furthermore, claims 24-27 are newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 2-5 and 24-27 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-5 and 24-27 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 7

Claim 7 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 7 reads as follows:

7. An anomaly detection system, comprising:
an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and
anomaly detection logic configured to determine when at least one of the tap coefficients fluctuates by at least a specified amount and ***to detect an anomaly along a telecommunication line based on a detection, by the logic, that the at least one tap coefficient fluctuated by at least the specified amount.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 7 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 7 should be withdrawn.

Claims 8, 9, and 28-30

Claim 8 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga*. In addition, claim 9 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galada*. Since *Galada* is not listed on a Form PTO-892, Applicants believe that the reference to *Galada* in the Office Action is in error and that the Examiner intended to reference *Galand* instead of *Galada*. Clarification of this issue in the next Office Action is requested. Furthermore, claims 28-30 are newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 8, 9, and 28-30 contain all features of their respective independent claim 7. Since claim 7 should be allowed, as argued hereinabove, pending dependent claims 8, 9, and 28-30 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 10

Claim 10 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 10 reads as follows:

10. An anomaly detection system, comprising:
an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and
anomaly detection logic configured to establish a set of baseline tap coefficients based on the tap coefficients, ***the anomaly detection logic configured to compute differences between new tap coefficients of the echo canceler and the baseline tap coefficients and to detect, based on the differences a time varying anomaly along a telecommunication line at a junction of two sections of the telecommunication line.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 10 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 10 should be withdrawn.

Claims 11, 12, and 14

Claims 11, 12, and 14 presently stand rejected in the Office Action under 35 U.S.C. §10 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 11, 12, and 14 contain all features of their respective independent claim 10. Since claim 10 should be allowed, as argued hereinabove, pending dependent claims 11, 12, and 14 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 15

Claim 15 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 15 reads as follows:

15. An anomaly detection method, comprising the steps of:
determining a difference between a new tap coefficient associated with a tap of an echo canceler and a previous tap coefficient associated with the tap;
comparing the difference to a threshold; and
detecting an anomaly along a telecommunication line based on the comparing step, the anomaly causing a time varying change in a transmission characteristic of a point along the transmission line. (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 15 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 15 should be withdrawn.

Claim 16

Claim 16 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 16 reads as follows:

16. An anomaly detection method, comprising the steps of:
monitoring a plurality of tap coefficients of an echo canceler;
determining when at least one of the tap coefficients fluctuates by at least a specified amount; and
detecting an anomaly along a telecommunication line based on the determining step, the anomaly causing a time varying change in resistance at a point along the transmission line. (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 16 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 16 should be withdrawn.

Claims 17 and 18

Claim 17 presently stands rejected in the Office Action under 35 U.S.C. §10 as allegedly being unpatentable over *Jones* in view of *Iga*. In addition, claim 18 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galada*. Since *Galada* is not listed on a Form PTO-892, Applicants believe that the reference to *Galada* in the Office Action is in error and that the Examiner intended to reference *Galad* instead of *Galada*. Clarification of this issue in the next Office Action is requested. Applicants submit that the pending dependent claims 17 and 18 contain all features of their respective independent claim 16. Since claim 16 should be allowed, as argued hereinabove, pending dependent claims 17 and 18 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 19

Claim 19 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 19 reads as follows:

19. An anomaly detection method, comprising the steps of:
establishing a set of baseline tap coefficients based on a set of tap coefficients of an echo canceler;
computing differences between the baseline tap coefficients and new tap coefficients of the echo canceler; and
detecting an anomaly along a telecommunication line based on the differences, the anomaly causing a time varying change in resistance at a junction of two sections of the telecommunication line. (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 19 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 19 should be withdrawn.

Claims 20, 21, and 23

Claims 20, 21, and 23 presently stand rejected in the Office Action under 35 U.S.C. §10 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 20, 21, and 23 contain all features of their respective independent claim 19. Since claim 19 should be allowed, as argued hereinabove, pending dependent claims 20, 21, and 23 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 31

Claim 31 has been newly added via the amendments set forth herein. Claim 31 reads as follows:

31. A system, comprising:
a receiver coupled to a telecommunication line, the receiver configured to receive digital signals transmitted from a remote transmitter via the telecommunication line, the telecommunication line having a time varying anomaly causing a resistance at a point on the telecommunication line to fluctuate over time thereby degrading the digital signals; and
anomaly detection logic configured to detect the anomaly and to provide an indication of a location of the anomaly.

Applicants submit that the cited art fails to disclose or suggest at least the features of claim 31 set forth above. Therefore, claim 31 is allowable.

Claims 32 and 33

Claims 32 and 33 have been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 32 and 33 contain all features of their respective independent claim 31. Since claim 31 should be allowed, as argued hereinabove, pending

dependent claims 32 and 33 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Allowable Subject Matter

Claims 6, 13, and 22 have been indicated as allowable by the outstanding Office Action if such claims are rewritten to include the limitations of their respective base claims. For at least the reasons set forth hereinabove, Applicants submit that the respective base claims of claims 6 and 13 are allowable and claims 6 and 13 are, therefore, allowable as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). In addition, claim 22 has been amended herein to include the features of its base claims 19 and 21. Thus, claim 22 is allowable in its present form.

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

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